

In the Claims:

Please cancel claims 2-4, 8, 13, 15-21, 26-27, 30, 33, 35-41, 51, 75-78, and 81-82, without prejudice.

Please amend claims 1, 5-7, 10-12, 14, 22, 31, 32, 42, 50, 52, 56, 57, 64, 67, 79, and 80 as follows:

Sub 1
1. (Amended) A tissue biopsy and treatment apparatus for detecting and treating tumors, the apparatus comprising:

an elongated delivery device including a lumen, the elongated delivery device being maneuverable in tissue;

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a sensor array deployable from the elongated delivery device, the sensor array including a plurality of resilient members each having a tissue piercing distal portion, at least one of the plurality of resilient members being positionable in the elongated delivery device in a compacted state and deployable with curvature into tissue from the elongated delivery device in a deployed state, at least one of the plurality of resilient members including a sensor, the sensor array having a geometric configuration adapted to volumetrically sample tissue at a tissue site or identify tissue at a tissue site;

at least some of said resilient members being electrodes which can be coupled to an RF energy source for ablating tissue when electrical energy is supplied to the electrodes from the source; and

wherein the sensor array is configured to measure a spectral profile of at least one portion of the tissue site.

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5. (Amended) The apparatus of claim 1, wherein the at least one portion includes a first portion and a second portion, the sensor array being configured to substantially simultaneously measure a first spectral profile of the first portion and a second spectral profile of the second portion.

6. (Amended) The apparatus of claim 1, further comprising:

logic resources coupled to one of the sensor array, or the sensor; and

wherein the logic resources are configured to identify or differentiate tissue responsive to a signal from one of the sensor or the sensor array.

B7 7. (Amended) The apparatus of claim 6, wherein the logic resources are configured to distinguish between normal and abnormal tissue, wherein the abnormal tissue including at least one of abnormally mutated tissue, abnormally dividing tissue, cancerous tissue, metastatic tissue, immortal tissue or hypoxic tissue.

B8 10. (Amended) The apparatus of claim 9, wherein the logic resources are configured to signal to one of a monitoring device or a display device the position of the energy delivery device relative to the tumor mass or to the ablation volume.

B8 11. (Amended) The apparatus of claim 10, wherein the logic resources are configured to interface with the display device to graphically display the position of the energy delivery device relative to the tumor mass or the ablation volume.

B 10 12. (Amended) The apparatus of claim 6, wherein the logic resources are configured to identify a clinical endpoint for a tissue ablation procedure.

14. (Amended) A tissue biopsy and treatment apparatus for detecting and treating tumors, the apparatus comprising:

an elongated delivery device including a lumen, the elongated delivery device being maneuverable in tissue;

B11 a sensor array deployable from the elongated delivery device, the sensor array including a plurality of resilient members each having a tissue piercing distal portion, at least one of the plurality of resilient members being positionable in the elongated delivery device in a compacted state and deployable with curvature into tissue from the elongated delivery device in a deployed state, at least one of the plurality of resilient members including a sensor, the sensor array having a geometric configuration adapted to volumetrically sample and measure a spectral profile of at least one portion of a tissue site to differentiate or identify tissue at the tissue site; and

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cont.
at least some of said resilient members being electrodes which can be coupled to an RF energy source for ablating tissue when electrical energy is supplied to the electrodes from the source; and.

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22. (Amended) The apparatus of claim 1, wherein the sensor comprises at least one of a light conducting member or an optical fiber positionable within a lumen of at least one of the plurality of resilient members, wherein the light conducting member or the optical fiber is configured to be coupled to a light source or a coherent light source.

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31. (Amended) The apparatus of claim 1, wherein the sensor array is configured to detect an indicator of cell necrosis.

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32. (Twice Amended) The apparatus of claim 31, wherein the indicator of cell necrosis is selected from the group consisting of a tissue vapor bubble, a rate of tissue vapor bubble formation, a denatured tissue protein, a denatured DNA and an intracellular fluid.

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42. (Amended) A tissue biopsy and treatment apparatus for detecting and treating tumors, the apparatus comprising:

an elongated delivery device including a lumen, the elongated delivery device being maneuverable in tissue;

a sensor array deployable from the elongated delivery device, the sensor array including a plurality of resilient members each having a tissue piercing distal portion, at least one of the plurality of resilient members being positionable in the elongated delivery device in a compacted state and deployable with curvature into tissue from the elongated delivery device in a deployed state, at least one of the plurality of resilient members including a sensor, the sensor array having a geometric configuration adapted to volumetrically sample tissue at a tissue site or identify tissue at a tissue site;

at least some of said resilient members being electrodes which can be coupled to an RF energy source for ablating tissue when electrical energy is supplied to the electrodes from the source;

wherein the sensor includes a first sensor and a second sensor; and

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Cont. wherein at least one of the first or the second sensors is selected from the group consisting of an emitter, an electromagnetic emitter, an optical emitter, an acoustical emitter, a laser and an LED.

B16 50. (Amended) The apparatus of claim 1, further comprising:

at least one of (i) the elongated delivery device or (ii) at least one of the plurality of the plurality of resilient members being adapted for fluid delivery therethrough to an infusion port disposed on at least one of the elongated delivery device or at least one resilient member of the plurality of resilient members.

B17 52. (Amended) A tissue biopsy and treatment apparatus for detecting and treating tumors, the apparatus comprising:

an elongated delivery device including a lumen, the elongated delivery device being maneuverable in tissue;

a sensor array deployable from the elongated delivery device, the sensor array including a plurality of resilient members each having a tissue piercing distal portion, at least one of the plurality of resilient members being positionable in the elongated delivery device in a compacted state and deployable with curvature into tissue from the elongated delivery device in a deployed state, at least one of the plurality of resilient members including a sensor, the sensor array having a geometric configuration adapted to volumetrically sample tissue at a tissue site or identify tissue at a tissue site;

at least some of said resilient members being electrodes which can be coupled to an RF energy source for ablating tissue when electrical energy is supplied to the electrodes from the source; and

wherein the sensor array is configured to detect a marking agent.

B18 56. (Amended) The apparatus of claim 55, wherein the marking agent is selected from the group consisting of an optical marker, a fluorescent marker, a radioactive-marker, a temperature sensitive marker, an antibody, a liposome, an antibody-coated liposome, a microsphere and a chemotherapeutic agent.

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57. (Amended) The apparatus of claim 55, wherein the marking agent is reactive to a delivery of energy .

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64. (Amended) The apparatus of claim 62, wherein at least one of the first or second tissue conditions is selected from the group consisting of a thermal injury condition, a tissue necrosis, a tissue ablation, a tissue vaporization, a tissue coagulation, and a cell membrane rupture.

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67. (Twice Amended) The apparatus of claim 66, wherein the second tissue temperature is selected from the group consisting of a tissue injuring temperature, a tissue necrosing temperature, a tissue ablative temperature, and a tissue vaporization temperature.

79. (Amended) The apparatus of claim 1, further comprising:

a handpiece coupled to one of the elongated delivery device or the sensor array;
and

a first advancement device at least partially positionable in one of the handpiece or the elongated delivery device, the advancement device being configured to advance at least one of the plurality of resilient members.

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80. (Amended) The apparatus of claim 79, further comprising:

a second advancement device at least partially positionable in one of the handpiece or the elongated delivery device, the second advancement device configured to advance a second resilient member of the at least one plurality of resilient members independent of an advancement of the first advancement device.
